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## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>6</sup> :</b> <b>A61K 39/09, 39/095, 39/39, 39/385</b>	<b>A3</b>	<b>(11) International Publication Number:</b> <b>WO 99/40936</b> <b>(43) International Publication Date:</b> 19 August 1999 (19.08.99)
<b>(21) International Application Number:</b> PCT/US99/02847 <b>(22) International Filing Date:</b> 10 February 1999 (10.02.99) <b>(30) Priority Data:</b> 60/074,528 12 February 1998 (12.02.98) US <b>(71) Applicant:</b> AMERICAN CYANAMID COMPANY [US/US]; Five Giralda Farms, Madison, NJ 07940 (US). <b>(72) Inventors:</b> LAPOSTA, Vincent, J.; 24 Bromley Road, Pitts- ford, NY 14534 (US). ELDRIDGE, John, H.; 4 Beatrice Cove, Fairport, NY 14450 (US). <b>(74) Agent:</b> BROWN, Scott, A.; American Home Products Corpo- ration, Patent and Trademark Dept. -2B, Attn: Brady, Kay, E., One Campus Drive, Parsippany, NJ 07054 (US).	<b>(81) Designated States:</b> AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims</i> <i>and to be republished in the event of the receipt of amendments.</i>  <b>(88) Date of publication of the international search report:</b> 28 October 1999 (28.10.99)	
<b>(54) Title:</b> PNEUMOCOCCAL AND MENINGOCOCCAL VACCINES FORMULATED WITH INTERLEUKIN-12  <b>(57) Abstract</b>  This invention pertains to vaccine compositions comprising a mixture of antigen, such as a pneumococcal or meningococcal antigen, and interleukin IL-12, which may be adsorbed onto a mineral in suspension. The pneumococcal or meningococcal antigen may be conjugated to a carrier molecule. These vaccine compositions modulate the protective immune response to the antigen.		

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# INTERNATIONAL SEARCH REPORT

Int l Application No

PCT/US 99/02847

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 A61K39/09 A61K39/095 A61K39/39 A61K39/385

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 96 14871 A (CORTECS LIMITED) 23 May 1996 (1996-05-23) claims 1,6,11 ---	1-56
A	US 5 571 515 A (SCOTT P. ET AL.) 5 November 1996 (1996-11-05) the whole document ---	1-56
P,X	WO 98 08947 A (THE GOVERNMENT OF THE UNITED STATES OF AMERICA) 5 March 1998 (1998-03-05) page 55 - page 63 --- -/--	1-56



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

### \* Special categories of cited documents :

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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

31 August 1999

Date of mailing of the international search report

14/09/1999

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# INTERNATIONAL SEARCH REPORT

In' tional Application No

PCT/US 99/02847

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	<p>BUCHANAN R M ET AL: "IL - 12 enhances antibody responses to T-independent polysaccharide vaccines in the absence of T and NK cells."</p> <p>JOURNAL OF IMMUNOLOGY, (1998 NOV 15) 161 (10) 5525-33. , XP002113760</p> <p>the whole document</p> <p>-----</p>	1-56

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 99/ 02847

## Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:  
Remark: Although claims 10-20 and 39-47 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 99/02847

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